



Installation Restoration Research Program

A Laboratory Evaluation of the Feasibility of Chemical Oxidation Processes for Treatment of Contaminated Groundwaters

by *Mark E. Zappi, Fred Ragan, Danae Guimbellot,
Keith Martin, Norman R. Francingues, Steven D. Harvey, WES*

James D. Smith, David Strang, Rocky Mountain Arsenal

Ellen Kaastrup, Ebasco Services, Inc.

Dickerson Burrows, U.S. Army Biomedical Research Laboratory

Approved For Public Release; Distribution Is Unlimited

The contents of this report are not to be used for advertising, publication, or promotional purposes. Citation of trade names does not constitute an official endorsement or approval of the use of such commercial products.



PRINTED ON RECYCLED PAPER

A Laboratory Evaluation of the Feasibility of Chemical Oxidation Processes for Treatment of Contaminated Groundwaters

by Mark E. Zappi, Fred Ragan, Dana Guimbellot,
Keith Martin, Norman R. Francingues, Steven D. Harvey

U.S. Army Corps of Engineers
Waterways Experiment Station
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

James D. Smith, David Strang
Office of the Program Manager
Rocky Mountain Arsenal
Commerce City, CO 80022

Ellen Kaastrup
Ebasco Services, Inc.
Lakewood, CO 80022

Dickerson Burrows
U.S. Army Biomedical Research Laboratory
Fort Detrick, MD 21701

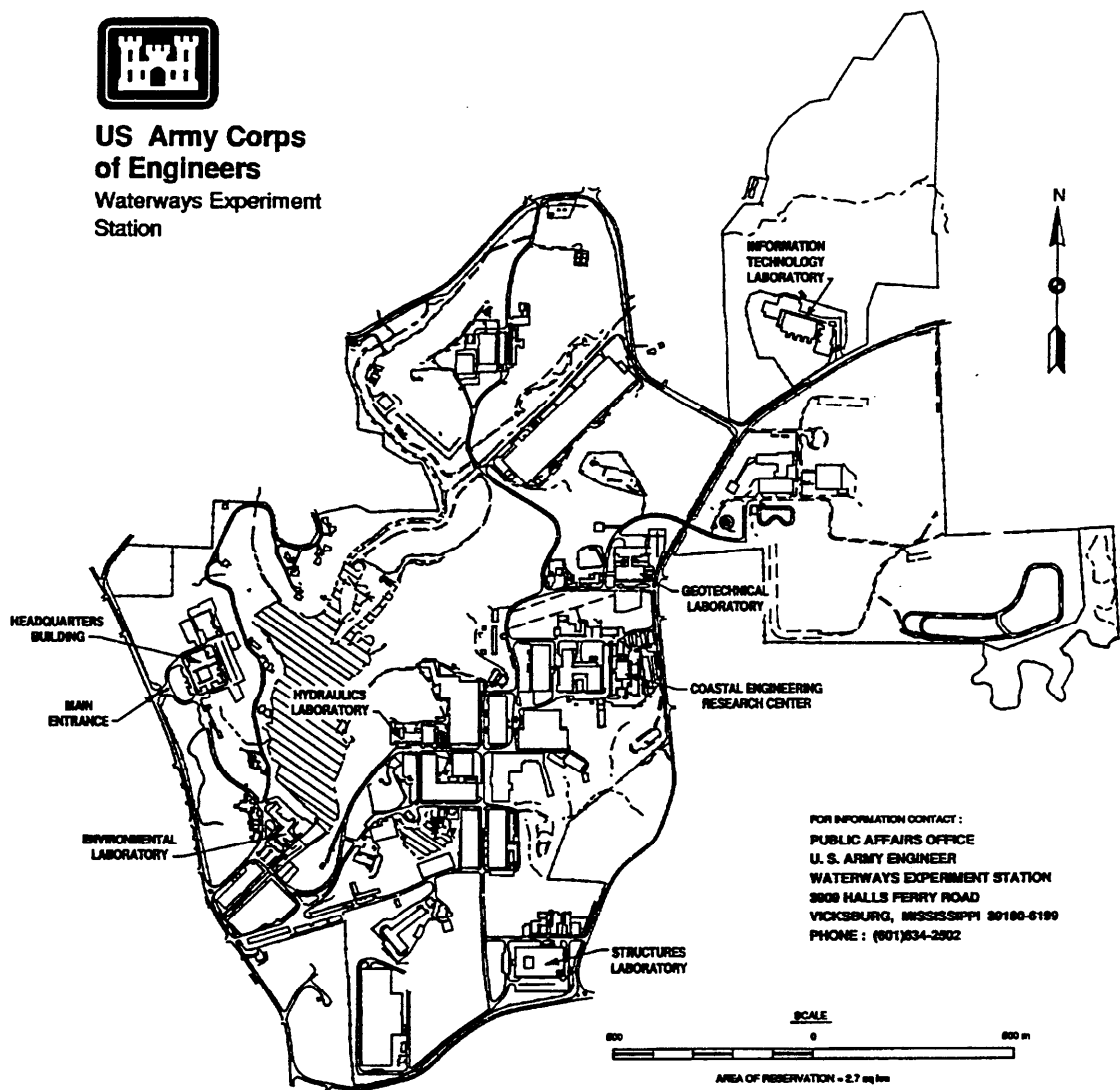
Final report

Approved for public release; distribution is unlimited

Prepared for U.S. Army Corps of Engineers
Washington, DC 20314-1000



**US Army Corps
of Engineers**
Waterways Experiment
Station



Waterways Experiment Station Cataloging-in-Publication Data

A laboratory evaluation of the feasibility of chemical oxidation processes for treatment of contaminated groundwaters / by Mark E. Zappi ... [et al.] ; prepared for U.S. Army Corps of Engineers.

163 p. : ill. ; 28 cm. — (Miscellaneous paper ; IRRP-95-1)

Includes bibliographic references.

1. Groundwater — Purification. 2. Hydrogen peroxide. 3. Ozone.
4. Hazardous wastes. I. Zappi, Mark E. II. United States. Army. Corps of Engineers. III. U.S. Army Engineer Waterways Experiment Station. IV. Installation Restoration Research Program. V. Series: Miscellaneous paper (U.S. Army Engineer Waterways Experiment Station) ; IRRP-95-1. TA7 W34m no.IRRP-95-1